

Supplementary Material:

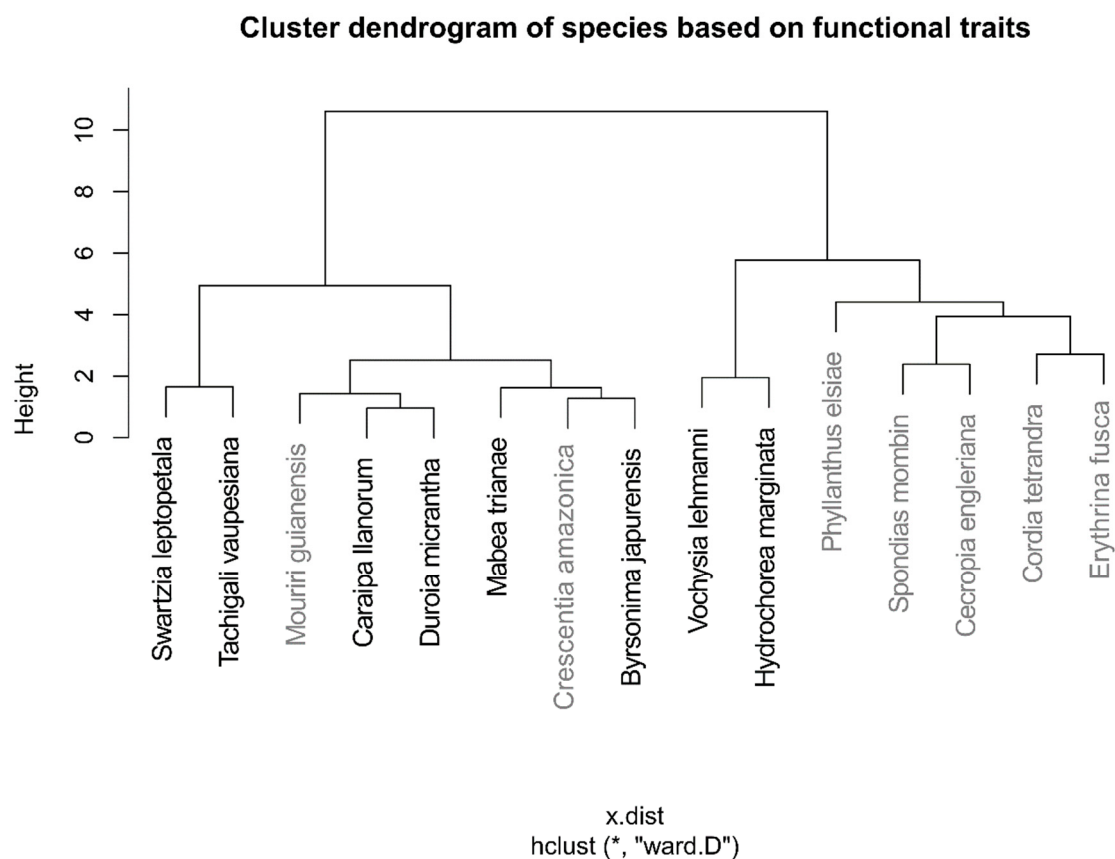


Figure S1. Cluster dendrogram of the most abundant species of várzea (gray) and igapó (black) based on the sampled functional traits. Most of the várzea species are grouped to the right, while most of the igapó species are found in the group on the left. However, *M. guianensis* and *C. amazónica*, which are várzea species, are grouped with the igapó species while *V. lemannii* and *H. marginata*, which are igapó species, are grouped with the várzea species.

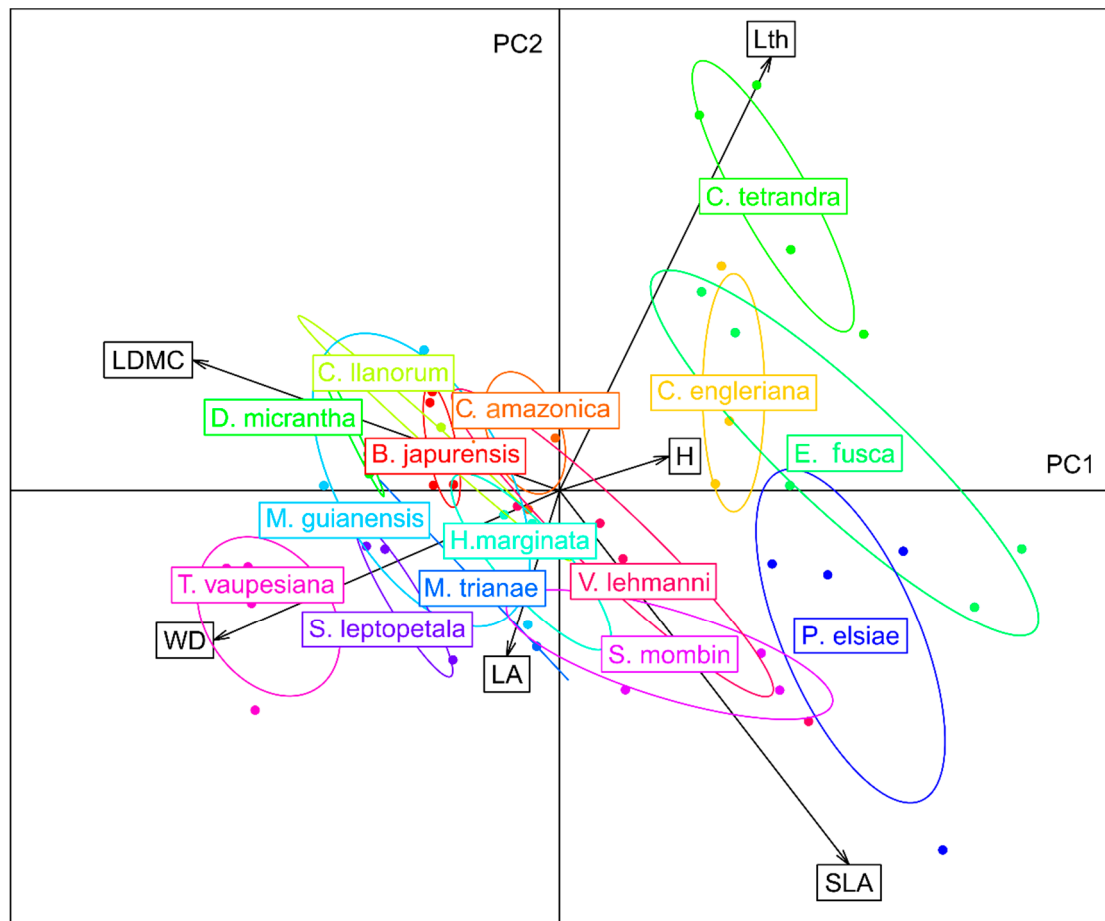


Figure S2. PCA showing the relationship between the functional traits values and the sampled species. Each point represents the individuals sampled and the colors indicate the species to which they belong to. *M. guianensis* and *C. amazónica*, which are várzea species, overlap with igapó species, while *V. lehmanni* and *H. marginata*, which are igapó species, overlap with várzea species.

Table S1. Selected species according to relative abundance (based on Cárdenas 2012). Family and relative abundance for each species are detailed according to the type of forest: várzea and igapó.

	Family	Specie	Relative Abundance
Várzea	Urticaceae	<i>Cecropia engleriana</i>	0.058
	Boraginaceae	<i>Cordia tetrandra</i>	0.138
	Bignoniaceae	<i>Crescentia amazonica</i>	0.101
	Fabaceae	<i>Erythrina fusca</i>	0.038
	Melastomataceae	<i>Mouriri guianensis</i>	0.029
	Phyllanthaceae	<i>Phyllanthus elsiae</i>	0.554
	Anacardiaceae	<i>Spondias mombin</i>	0.024
Total			0.942
Igapó	Malpighiaceae	<i>Byrsonima japurensis</i>	0.075
	Rubiaceae	<i>Duroia micrantha</i>	0.081
	Fabaceae	<i>Hydrochorea marginata</i>	0.026
	Calophyllaceae	<i>Caraipa llanorum</i>	0.018
	Euphorbiaceae	<i>Mabea trianae</i>	0.033
	Fabaceae	<i>Swartzia leptopetala</i>	0.033
	Fabaceae	<i>Tachigali vaupesiana</i>	0.564
	Vochysiaceae	<i>Vochysia lehmannii</i>	0.051
Total			0.882

Table S2. General description of the functional traits included in this study, which details the acronyms, units of measurement and the associated function. LA = leaf area; SLA = specific leaf area; LDMC = leaf dry matter content; Lth = leaf thickness; WD = wood density; H = plant height.

Functional Trait	Associated Function	Reference
Leaf area, LA (mm ²)	Light interception area, respiration, transpiration, gas exchange.	[1]
Specific leaf area, SLA (mm ² mg ⁻¹)	Relative growth rate, leaf life, leaf Nitrogen concentration and photosynthetic capacity.	[2,3]
Leaf thickness, Lth (mm)	Physical strength of the leaves, photosynthetic rate and key component of SLA.	[4]
Leaf dry matter content, LDMC (mg g ⁻¹)	Construction costs, nutrient retention, resistance against herbivory and physical damage.	[3]
Wood density, WD (g.cm ⁻³)	Construction costs, growth rate, architecture, resistance to pathogens and mortality rate.	[5,6]
Plant height, H (m)	Growth form, position in the vertical light gradient, competitive vigor, plant fertility and potential shelf life.	[4]

1. Lebrija-Trejos, E.; Pérez-García, E.A.; Meave, J.A.; Bongers, F.; Poorter, L. Functional traits and environmental filtering drive community assembly in a species-rich tropical system. *Ecology* **2010**, *91*, 386-398. <https://doi.org/10.1890/08-1449.1>
2. Lavorel, S.; Garnier, E. Predicting changes in community composition and ecosystem functioning from plant traits: revisiting the Holy Grail. *Functional Ecology* **2002**, *16*, 545-556. <https://doi.org/10.1046/j.1365-2435.2002.00664.x>
3. Poorter, L.; Bongers, L.; Bongers, F. Architecture of 54 moist-forest tree species: traits, trade-offs, and functional groups. *Ecology* **2006**, *87*, 1289-1301. [https://doi.org/10.1890/0012-9658\(2006\)87\[1289:AOMTST\]2.0.CO;2](https://doi.org/10.1890/0012-9658(2006)87[1289:AOMTST]2.0.CO;2)
4. Pérez-Harguindeguy, N.; Diaz, S.; Gamier, E.; Lavorel, S.; Poorter, H.; Jaureguiberry, P.; Urcelay, C. Corrigendum to: new handbook for standardised measurement of plant functional traits worldwide. *Australian Journal of Botany* **2016**, *64*, 715-716. https://doi.org/10.1071/BT12225_CO
5. Swenson, N.G.; Enquist, B.J. The relationship between stem and branch wood specific gravity and the ability of each measure to predict leaf area. *American Journal of Botany* **2008**, *95*, 516-519. <https://doi.org/10.3732/ajb.95.4.516>
6. Chave, J.; Coomes, D.; Jansen, S.; Lewis, S.L.; Swenson, N.G.; Zanne, A.E. Towards a worldwide wood economics spectrum. *Ecology Letters* **2009**, *12*, 351-366. <https://doi.org/10.1111/j.1461-0248.2009.01285.x>

Table S3. Mean values (Mean), standard deviation (SD), maximum (Max) and minimum (Min) values of each functional trait according to the forest types: várzea and igapó. LA = leaf area; SLA = specific leaf area; LDMC = leaf dry matter content; Lth = leaf thickness; WD = wood density; H = plant height.

	Várzea				Igapó			
	Mean	SD	Max	Min	Mean	SD	Max	Min
LA	233.65	275.01	654.81	22.21	197.75	247.75	697.18	38.61
SLA	13.96	4.13	21.41	10.07	11.56	2.03	13.83	8.64
LDMC	312.41	74.58	408.29	183.40	433.51	53.24	485.78	314.82
Lth	0.32	0.11	0.53	0.20	0.19	0.04	0.25	0.13
WD	0.41	0.13	0.66	0.28	0.57	0.10	0.75	0.42
H	15.56	5.38	24.80	9.7	18.28	5.91	27.80	12.50

Table S4. *p*-values of the two unilateral statistical tests performed (lower and upper limit) to compare the T statistics with the random expectations, according to each functional trait and forest type. *p* < 0.05 (bold) indicates significant differences. LA = leaf area; SLA = specific leaf area; LDMC = leaf dry matter content; Lth = leaf thickness; WD = wood density; H = plant height.

		Lth	LA	SLA	LDMC	WD	H
Várzea	T_IP.IC inf	0.001	0.001	0.002	0.001	0.001	0.001
	T_IP.IC sup	1.000	1.000	0.999	1.000	1.000	1.000
	T_IC.IR inf	0.746	0.637	0.939	0.163	0.020	0.332
	T_IC.IR sup	0.255	0.364	0.062	0.838	0.981	0.669
	T_PC.PR inf	0.697	0.707	0.915	0.311	0.410	0.486
	T_PC.PR sup	0.304	0.294	0.859	0.690	0.591	0.515
Igapó	T_IP.IC inf	0.001	0.001	0.090	0.008	0.001	0.002
	T_IP.IC sup	1.000	1.000	0.911	0.993	1.000	1.000
	T_IC.IR inf	0.001	0.374	0.010	0.002	0.002	0.445
	T_IC.IR sup	1.000	0.627	0.991	0.999	0.999	0.556
	T_PC.PR inf	0.004	0.405	0.023	0.027	0.071	0.486
	T_PC.PR sup	0.997	0.596	0.978	0.974	0.930	0.515